

PASTOR, BEHLING & WHEELER, LLC 2201 Double Creek Drive, Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446

November 12, 2008 (PBW Project No. 1352)

VIA OVERNIGHT DELIVERY

Mr. Gary Miller, Remedial Project Manager U.S. Environmental Protection Agency, Region 6 Superfund Division (6SF-AP) 1445 Ross Avenue, Suite 1200 Dallas, Texas 75202-2733

Re: Proposed Phase 5 Groundwater Investigation Activities, Gulfco Marine Maintenance

Site, Freeport, Texas

Dear Mr. Miller:

Per our previous discussions, this letter provides validated data for groundwater samples from Zone B monitoring well NE4MW31B, Zone C monitoring well NE4MW32C, and Zone C piezometers NG3CPT1, NE4CPT2, NC2CPT3, and OCPT4, which were sampled as part of the Remedial Investigation/Feasibility Study (RI/FS) at the subject site (the Site). Phase 5 groundwater investigation activities proposed on the basis of those data are also described herein. This information is provided by Pastor, Behling & Wheeler, LLC (PBW) on behalf of LDL Coastal Limited LP (LDL), Chromalloy American Corporation (Chromalloy) and The Dow Chemical Company (Dow). In accordance with Paragraph 52 of the amended Unilateral Administrative Order for the Site, effective January 31, 2008, I certify that I have been fully authorized by these Respondents to submit these documents and to legally bind these Respondents thereto.

PHASE 4 GROUNDWATER DATA SUMMARY

Phase 4 groundwater investigation activities were proposed in a February 11, 2008 letter to you and were approved by your letter dated March 18, 2008. These Phase 4 field activities, which were performed during the period from June to September 2008, included the following:

- Installation, development and sampling of monitoring well NE4MW31B within the Zone B water-bearing unit in the area north of Marlin Avenue (the North Area), as shown on Figure 1;
- Hydraulic testing of three monitoring wells (ND4MW24B, NG3MW25B and OMW27B) within the Zone B water-bearing unit;
- Advancement of four borings using a Cone Penetrometer equipped with a Membrane Interface Probe (MIP) to Zone C at locations NG3CPT1, NE4CPT2, NC2CPT3, and OCPT4 (Figure 1), followed by back grouting of the Cone Penetrometer Testing (CPT) borings and subsequent installation of adjacent small-diameter piezometers;

Mr. Gary Miller November 12, 2008 Page 2 of 4

- Installation, development and sampling of monitoring well NE4MW32C within the Zone C water-bearing unit (location shown on Figure 1);
- Evaluation of the possible presence of NAPL within monitoring wells; and
- Measurement of water levels in Site monitoring wells, piezometers and staff gauges.

Although not proposed in the February 11, 2008 letter, soil samples were collected from the boring for NE4MW32C for vertical hydraulic conductivity testing in conjunction with Phase 4 groundwater activities. Installation, geophysical logging and plugging/abandonment of a deep soil boring (SE1DB01 as shown on Figure 1) as described in the approved RI/FS Work Plan was also performed concurrent with the Phase 4 activities. A soil sample from this boring was also collected for vertical hydraulic conductivity testing.

Based on the data for the groundwater sample collected from monitoring well NE4MW32C (discussed below), re-sampling of this well and collection of groundwater samples from the four Zone C CPT piezometers described above were proposed in e-mail messages to you on July 17, 2008 and July 23, 2008 and was approved by your e-mail message on July 23, 2008. A second re-sampling of NE4MW32C was discussed with and approved by you on September 3, 2008.

At NE4MW31B, Zone B was encountered at a depth of 20 feet below ground surface (bgs) and consisted of more than ten feet of a fine to medium-grained sand (boring log provided in Attachment A). The groundwater sample collected from this well contained no analytes at concentrations exceeding their respective Preliminary Screening Values (PSVs) (Table 1). Water levels measured in Zone B monitoring wells on July 30, 2008 (Figure 2) indicate a predominantly north to northwest hydraulic gradient within this zone.

At NE4MW32C, Zone C consisted of a thin (less than 0.5 ft thick) shell layer at a depth of approximately 73 feet bgs within a surrounding high plasticity clay unit. As shown on the NE4MW32C boring log (Attachment A) and profiles for the four CPT probe holes (Attachment B), approximately 25 or more feet of clay/silty clay separate Zone C from Zone B. The vertical hydraulic conductivity of this clayey material was measured at approximately 6 x 10⁻⁹ cm/sec (Table 2).

Water level elevations measured in the Zone C monitoring well/piezometers were used to construct potentiometric surface maps for June 17 (Figure 3), July 30 (Figure 4), and September 29, 2008 (Figure 5). All three of these maps suggest a generally northwesterly gradient within this unit. The total dissolved solids (TDS) concentration of groundwater in Zone C was 24,600 mg/L.

As indicated in Table 1, three volatile organic compounds (VOCs), 1,2,3-trichloropropane (1,2,3-TCP), tetrachloroethene (PCE), and trichloroethene (TCE) were detected in the June 18, 2008 groundwater sample from NE4MW32C at concentrations exceeding their respective PSVs. Resampling of this well and the four Zone C CPT piezometers was performed on July 31, 2008. Analyses of these samples confirmed only the 1,2,3-TCP exceedence in the initial NE4MW32C sample (at a lower concentration), and indicated no PSV exceedences in any of the CPT piezometer samples (Table 1). A third sample from NE4MW32C, collected on September 30, 2008 following re-development of the well after submergence of the Site during the Hurricane Ike storm surge, did not indicate any PSV exceedences.

PROPOSED PHASE 5 GROUNDWATER INVESTIGATION ACTIVITIES

Per our discussions, installation of an additional Zone C CPT piezometer (OCPT5) is proposed at the location shown on Figure 6. This piezometer is proposed to provide a Zone C monitoring location directly downgradient from the former surface impoundments at the Site. This piezometer will be installed using the same approach used for the other Zone C piezometers, as detailed below.

It is anticipated that OCPT5 will be advanced using a track-mounted CPT unit. The CPT probe will be combined with an MIP probe to provide a real-time indication of the possible presence of VOCs in the subsurface. The CPT boring will be advanced to the inferred base of Zone C (as indicated by cone resistance and friction resistance data measured by the cone penetrometer) or refusal. Upon reaching the target depth (or upon refusal), the CPT probe will be withdrawn and the probe hole will be backfilled with a cement-bentonite grout emplaced by tremie pipe from the bottom of the hole to the surface. Using the estimated lithology from the CPT boring, hollow push rods with a disposable tip will be advanced to the Zone C target depth in a separate borehole adjacent to each CPT boring. A small diameter (¾-inch or smaller) piezometer will then be installed through the push rods. The push rods will be withdrawn from the boring leaving the disposable tip and piezometer materials in place. The piezometer will be constructed with a maximum 10-foot screen length with a pre-packed filter pack and bentonite seal. The annular space above the piezometer seal will be filled with a cement-bentonite grout. Each piezometer will be completed above grade with locking protective steel casing within a 2 foot by 2 foot well pad.

After construction, OCPT5 will be sampled using low flow methods as described in the Work Plan and the approved Field Sampling Plan (FSP). NE4MW32C will also be sampled in the same way concurrent with the OCPT5 sampling. These groundwater samples will be analyzed for the parameters listed in Table 3.

Although PSV exceedences were noted in the two initial samples collected from NE4MW32C, it is proposed that no additional groundwater investigation be performed should the OCPT5 and NE4MW32C samples proposed herein show no PSV exceedences. In such case, the proposed NE4MW32C sample would be the second sample (along with the September 30, 2008 sample) from this well that did not confirm the initial PSV exceedences. In addition, the VOCs detected in the three NE4MW32C samples collected to date have shown significant decreasing concentration trends (Table 1).

Thank you for the opportunity to submit this information. We look forward to your approval of these proposed activities, so we can continue to move forward with the expeditious completion of this project.

Sincerely,

PASTOR, BEHLING& WHEELER, LLC

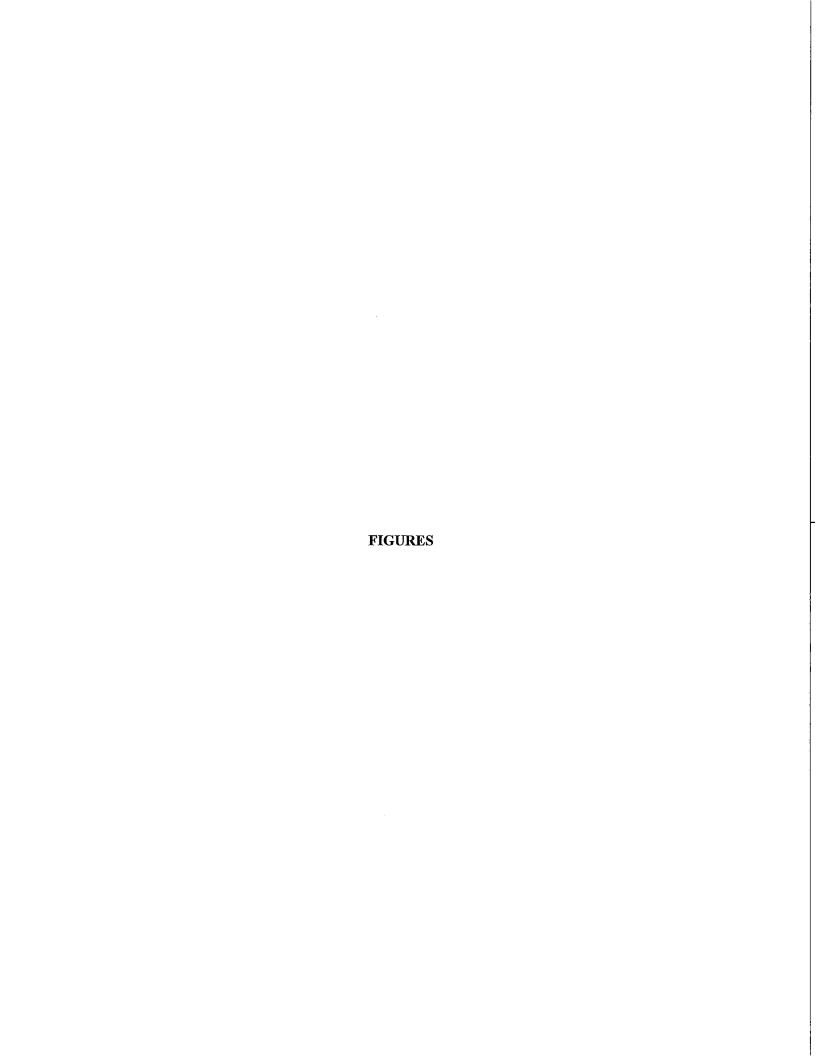
Eric F. Pastor, P.E. Principal Engineer

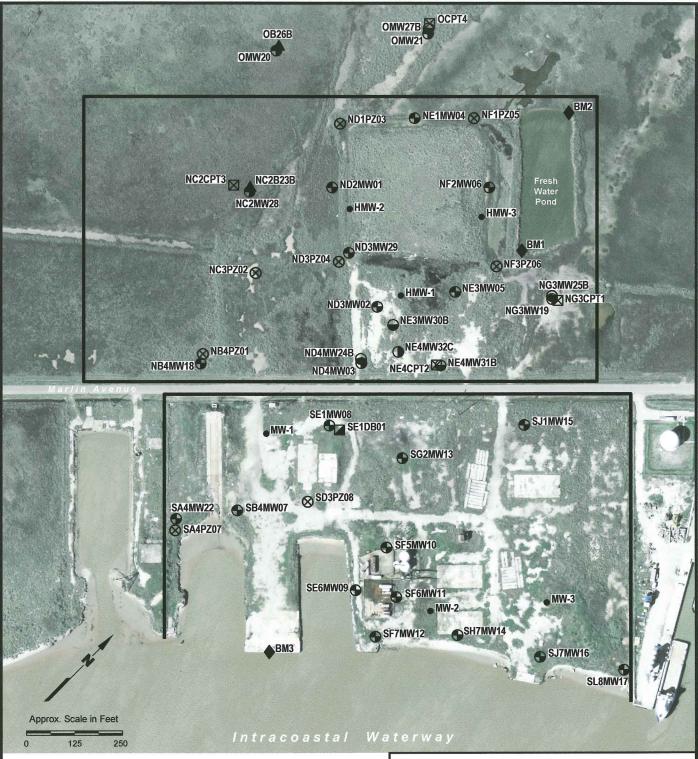
Mr. Gary Miller November 12, 2008 Page 4 of 4

cc: Ms. Luda Voskov - Texas Commission on Environmental Quality

Mr. Brent Murray – Environmental Quality, Inc. Mr. Rob Rouse - The Dow Chemical Company Mr. Allen Daniels - LDL Coastal Limited, LP Mr. F. William Mahley - Strasburger & Price, LLP

Mr. James C. Morriss III - Thompson & Knight, LLP





- Gulfco Marine Maintenance Site Boundary (approximate)
- Monitoring Well Location Zone A
- Temporary Piezometer Zone A
- Staff Gauge
- Previous Monitoring Well Location

- Monitoring Well Location Zone B
- Soil Boring Location Zone B
- Monitoring Well Location Zone C
- CPT Piezometer Location Zone C
- Deep Soil Boring Location

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

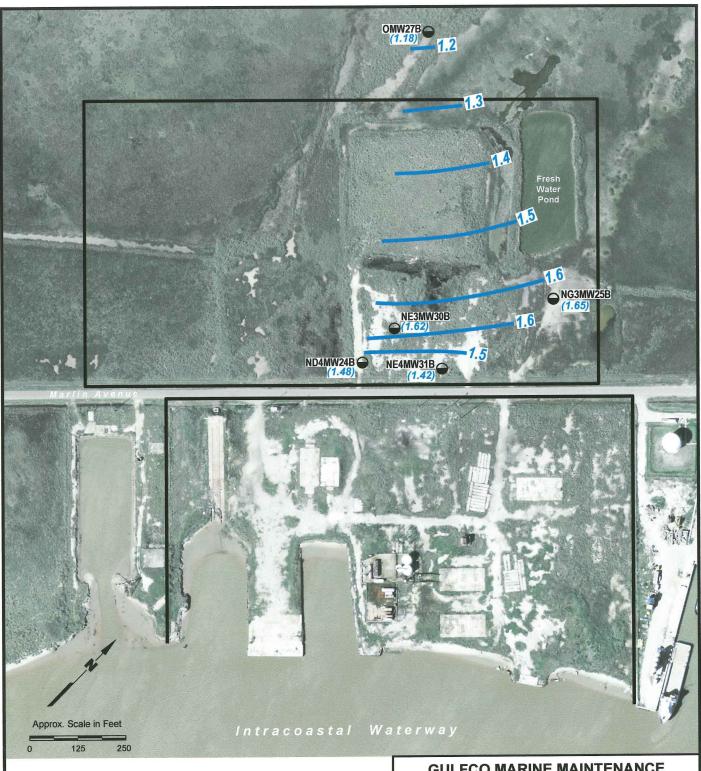
Figure 1

MONITORING WELL LOCATIONS

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: NOV., 2008	CHECKED: EFP	

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Gulfco Marine Maintenance Site Boundary (approximate) (1.48) Water-Level Elevation (Ft AMSL) Measured 7/30/08

Monitoring Well Location Zone B

—1.5— Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.1 Ft

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 2

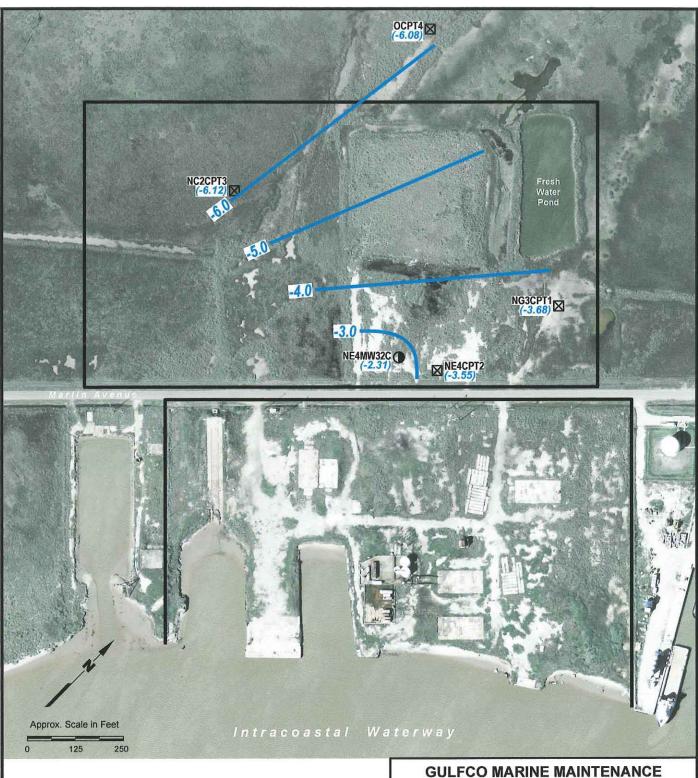
ZONE B POTENTIOMETRIC SURFACE JULY 30, 2008

PROJECT: 1352 BY: ZGK REVISIONS

DATE: NOV., 2008 CHECKED: EFP

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Gulfco Marine Maintenance Site Boundary (approximate) (-6.12) Water-Level Elevation (Ft AMSL) Measured 6/17/08

Monitoring Well Location -Zone C

=-3.0 = Potentiometric Surface Contour (Ft AMSL)

CPT Piezometer Location -Zone C

Contour Interval = 1 Ft

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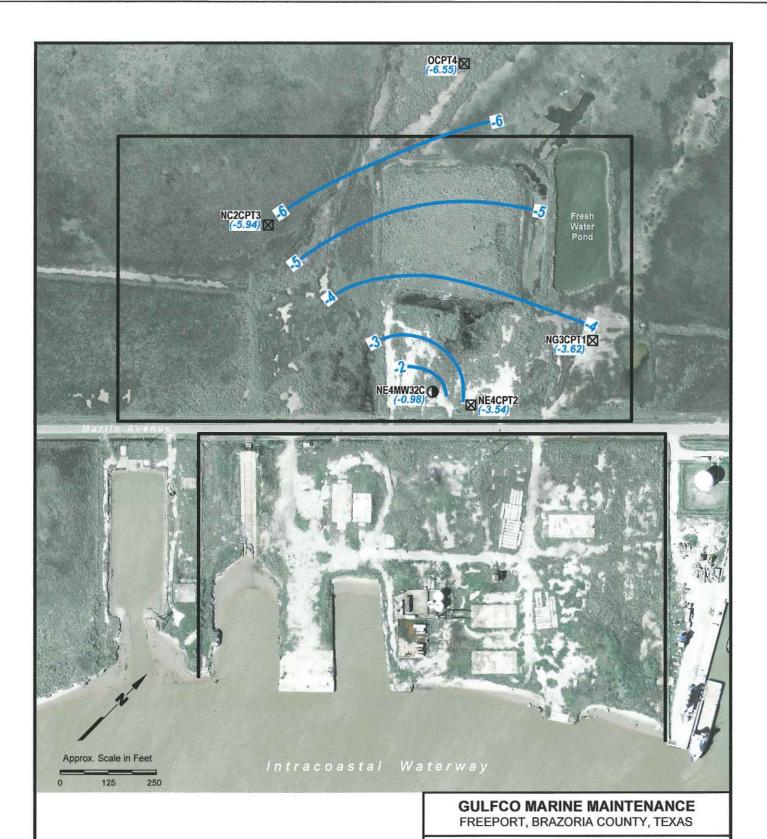
Figure 3

ZONE C POTENTIOMETRIC SURFACE JUNE 17, 2008

REVISIONS PROJECT: 1352 BY: ZGK DATE: NOV., 2008 CHECKED: EFP

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Gulfco Marine Maintenance Site Boundary (approximate)

(-6.55) Water-Level Elevation (Ft AMSL) Measured 7/30/08

Monitoring Well Location -Zone C

=-3.0 = Potentiometric Surface Contour (Ft AMSL) Contour Interval = 1 Ft

CPT Piezometer Location - \boxtimes Zone C

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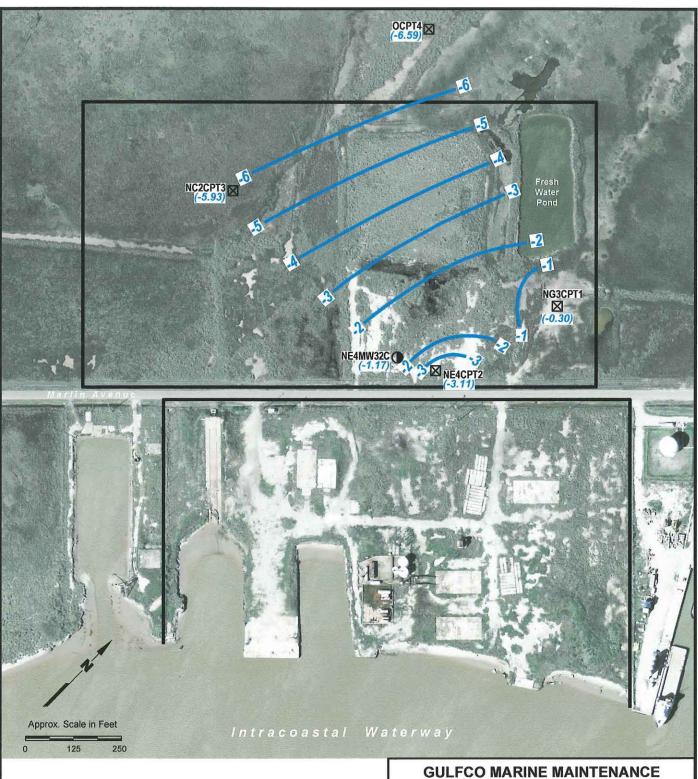
CONSULTING ENGINEERS AND SCIENTISTS

Figure 4

ZONE C
POTENTIOMETRIC SURFACE
JULY 30, 2008

REVISIONS

PROJECT: 1352 BY: ZGK DATE: NOV., 2008 CHECKED: EFP



Gulfco Marine Maintenance Site Boundary (approximate) (-3.11) Water-Level Elevation (Ft AMSL) Measured 9/29/08

Monitoring Well Location - Zone C

 -3.0 Potentiometric Surface Contour (Ft AMSL) Contour Interval = 1 Ft

CPT Piezometer Location - Zone C

face) 1 Ft

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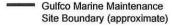
Figure 5

ZONE C POTENTIOMETRIC SURFACE SEPTEMBER 29, 2008

PROJECT: 1352 BY: ZGK REVISIONS

DATE: NOV., 2008 CHECKED: EFP





- CPT Piezometer Location Zone C
- Monitoring Well Location -Zone C

Proposed Zone C Piezometer Location

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 6

PROPOSED CPT PIEZOMETER LOCATION

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DATE: NOV., 2008 CHECKED: EFP

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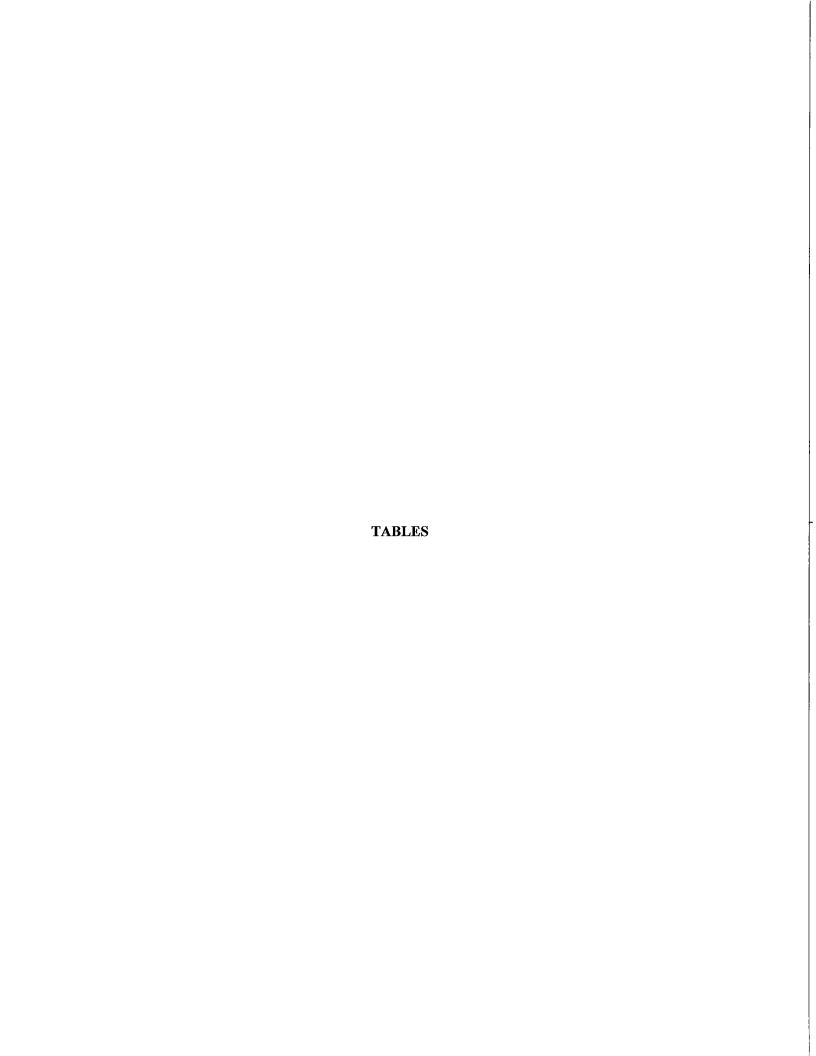


TABLE 1 - PHASE 4 GROUNDWATER DATA

Sample Location	Sample Date	Analytical Parameter	Concentration (mg/L)	Preliminary Screening Value (mg/L)
		1,1,1-Trichloroethane	<0.000155	20
		1,1-Dichloroethene	<0.000226	0.7
		1,2,3-Trichloropropane	<0.000151	0.029
		1,2-Dichloroethane	<0.000184	0.5
		Benzene	<0.000184	0.5
NE4MW31B	6/18/2008	Carbon tetrachloride	<0.000124	0.5
		cis-1,2-Dichloroethene	0.000423J	7
		Methylene chloride	0.00218J	0.5
		Tetrachloroethene	<0.000081	0.5
		Trichloroethene	<0.000123	0.5
		Vinyl chloride	<0.000163	0.2
		1,1,1-Trichloroethane	0.709	20
		1,1-Dichloroethene	<0.000226	0.7
ŀ		1,2,3-Trichloropropane	0.321	0.029
i		1,2-Dichloroethane	<0.000184	0.5
		Benzene	0.0459J	0.5
	6/18/2008	Carbon tetrachloride	<0.000124	0.5
		cis-1,2-Dichloroethene	4.62	7
		Methylene chloride	<0.000104	0.5
		Tetrachloroethene	1.35	0.5
		Trichloroethene	1.89	0.5
İ		Vinyl chloride	<0.000163	0.2
Ţ.		1,1,1-Trichloroethane	0.18	20
		1,1-Dichloroethene	0.0379	0.7
		1,2,3-Trichloropropane	0.219	0.029
		1.2-Dichloroethane	<0.0018	0.5
		Benzene	0.0548	0.5
NE4MW32C	7/31/2008	Carbon tetrachloride	< 0.00312	0.5
		cis-1,2-Dichloroethene	3.27	7
		Methylene chloride	<0.00192	0.5
		Tetrachloroethene	<0.00306	0.5
		Trichloroethene	<0.00236	0.5
		Vinyl chloride	<0.00310	0.2
The state of the s		1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	0.00177J	0.7
		1,2,3-Trichloropropane	0.0119	0.029
		1,2-Dichloroethane	<0.0009	0.5
		Benzene	0.0012J	0.5
	9/30/2008	Carbon tetrachloride	<0.00125	0.5
	2/20/2000	cis-1,2-Dichloroethene	0.168	7
		Methylene chloride	<0.00096	0.5
		Tetrachloroethene	0.00648	0.5
		Trichloroethene	0.00639	0.5
		Vinyl chloride	<0.00039	0.3

TABLE 1 - PHASE 4 GROUNDWATER DATA

Sample Location	Sample Date	Analytical Parameter	Concentration (mg/L)	Preliminary Screening Value (mg/L) ¹
		1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	<0.000201	0.7
		1,2,3-Trichloropropane	<0.000091	0.029
		1,2-Dichloroethane	<0.000090	0.5
·		Benzene	<0.000065	0.5
NG3CPT1	7/31/2008	Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	<0.000162	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	<0.000118	0.5
		Vinyl chloride	<0.000155	0.2
		1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	<0.000201	0.7
		1,2,3-Trichloropropane	<0.000091	0.029
		1,2-Dichloroethane	<0.000090	0.5
		Benzene	<0.000065	0.5
NE4CPT2	7/31/2008	Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	<0.000162	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	<0.000118	0.5
		Vinyl chloride	<0.000155	0.2
		1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	<0.000201	0.7
		1,2,3-Trichloropropane	<0.000091	0.029
		1,2-Dichloroethane	<0.000090	0.5
		Benzene	<0.000065	0.5
NC2CPT3	7/31/2008	Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	<0.000162	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	<0.000118	0.5
		Vinyl chloride	<0.000155	0.2

TABLE 1 - PHASE 4 GROUNDWATER DATA

Sample Location	Sample Date	Analytical Parameter	Concentration (mg/L)	Preliminary Screening Value (mg/L) ¹	
		1,1,1-Trichloroethane	<0.000096	20	
		1,1-Dichloroethene	<0.000201	0.7	
		1,2,3-Trichloropropane	<0.000091	0.029	
		1,2-Dichloroethane	<0.000090	0.5	
		Benzene	<0.000065	0.5	
OCPT4	7/31/2008	Carbon tetrachloride	<0.000156	0.5	
		cis-1,2-Dichloroethene	<0.000162	7	
		Methylene chloride	<0.000096	0.5	
		Tetrachloroethene	< 0.000153	0.5	
		Trichloroethene	<0.000118	0.5	
		Vinyl chloride	<0.000155	0,2	

Notes:

 ⁽¹⁾ From Table 18 of RI/FS Workplan (human health PSVs only).
 (2) Data qualifiers: J = estimated value.
 (3) Bolded values exceed preliminary screening value.

TABLE 2 - LABORATORY VERTICAL HYDRAULIC CONDUCTIVITY TESTING RESULTS

Sample Location	Sample Depth (ft below ground surface)	Vertical Hydraulic Conductivity (cm/sec)
NE4MW32C	53-55	6.55 x 10 ⁻⁹
NE4MW32C	55-57	5.66 x 10 ⁻⁹
SE1DB01	80-82	1.64 x 10 ⁻⁸

TABLE 3 - PROPOSED GROUNDWATER SAMPLE ANALYSES

Sample Location	Analytical Parameter
OCPT5	1,1,1-Trichloroethane
NE4MW32C	1,1-Dichloroethene
	1,2,3-Trichloropropane
	1,2-Dichloroethane
	Benzene
	Carbon tetrachloride
	cis-1,2-Dichloroethene
	Methylene chloride
	Tetrachloroethene
	Trichloroethene
	Vinyl chloride

ATTACHMENT A

NE4MW31B AND NE4MW32C BORING LOGS

				Completion	Date.	06/13/08		Borehole Diameter (in.):	8.0/13.0
G	ulfco Marine Mainte)	Drilling Co		Universal Drilling		Fotal Depth (ft):	45
	Superfund Site Freeport, TX	€		Field Supe		Tim Jennings, P.G.		Northing:	3154903.18
	rieepoit, ix			Drilling Me		Hollow Stem Auger		Easting:	13554709.81
PBW Project No. 1352				Sampling I		5 ft. split spoon		Ground Elev. (ft. MSL):	3.0
	PBW Project No. 1	352		Jamping I	vietnou.	o it. spiit spoon		FOC Elev. (ft MSL)	6.01
Depth (ft)	Well Construction Diagram	PID (v-mdd)	Recovery (ft/ft)						10.01
0	3833 8333			RD BASE	(0.0-0.	8) Caliche road base).		
4		0.2	5/5						
-		0.3	3/3	CHCH	(0.8-6.	2) Sandy CLAY, gray	y with bi	own mottling, moist, ~5	to 10%
5 —		0.5			fine-gr	ained sand, ~ 90 to 9	95% me	dium to high plasticity c	lays.
Ĭ		0.4		7///		···			
-		0.7	5/5	CH	(6.2-8.	.5) Silty sandy CLAY,	, brown	with gray mottling, mois o 20% silt, ~70 to 80%	t to locally wet,
\dashv		0.2	3/3		clay s		iu, ~15 t	0 20% SIII, ~70 to 60%	nigh plasticity
10 —					(8.5-9.	4) Clayey SILT, gray	ish-brov	vn, wet, ~30 to 40% hig	h plasticity clay
" :] ,	SM	\~60 to	70% silt, soft.	ieh-brov	vn to brown, wet, ~10 to	30% eilt ~70 t
\dashv		0.2	5/5	<u></u>	\90% fi	ne-grained sand, sof	t.		
-		0.2	5/5		(11.3-	13.4) Sandy clayey S	SILT, bro	wn, wet, ~10 to 20% hi	gh plasticity cla
15				//ÇH//	to 70% silt, very soft.	very fine-graine			
10		0.2		11111	sand,	~80 to 90% high plas	sticity cl	ay, very soft.	vory fine granic
_			4.15						
-			1/5	NR	(16.0-2	20.0) NO RECOVERY	/ .		
<u>,,</u>									
20 🚽						**			
4		0.2							
-			2.5/5						
					(20.0-3 mediur	30.0) SAND, poorly gl n-grained sand with a	raded, b ~5% she	rown, wet, very fine-gra Ill fragments at 20.0 to	uned to 21.5 verv
25 —				SP.	fine-gr	ained to fine-grained		th trace shell fragments	
_					firm, tr	ace gray clay.			
-			2.5/5						
30				• • • •					
4			0/5						
35 —				NR	(30.0-4	0.0) NO RECOVERY	' in flowi	ng sands.	
\Box									
			0/5						
., -									
40 —				1111					
				////	(An n 4	5 (1) Sandy CI AV :	ehoo o	f care harrall calusass	vered 0.25
			0.25/5	/\¢\/		ike clay.	SHUU 0	f core barrell, only reco	veleu V.Z ,
45				/////		·			
70			IMA	l Materials		· · · · · · · · · · · · · · · · · · ·	Annul-	r Materials	
Pastor, 2201 Do	PBW Behling & Wheeler suble Creek Dr., Suite bund Rock, TX 7866.	e 4004 4	(0.0- (0.0- (18.0 (28.0	16.0) Surface 18.0) Casing,	2" sch. 40 , 2" sch. 4	0" sch. 40 PVC 0 PVC 40 PVC, 0.01" slot	(0.0-12.0 (0.0-16.0 (12.0-17	IT Waterrals O) Cement/Bentonite slurry, O) Cement/Bentonite slurry, O) 3/8" bentonite chips, Ins O) 16/30 silica sand	outside surf. casir
el (512) 6	571-3434 Fax (512)	671-34	46 l	is boring lo					

Consulting Engineers and Scientists						 -	NE4MW32C	la siin sun n	
Gı	ulfco Marine Maint	enance		Completion		06/13/08		Borehole Diameter (in.):	8.0/13.0/17.5
	Superfund Site			Drilling Co		Universal Drilling		Total Depth (ft):	80
	Freeport, TX			Field Supe		Tim Jennings, P.G.		Northing:	3154802.32
				Drilling Me		Hollow Stem Auge		Easting:	13554653.07
	PBW Project No. 1	1352		Sampling I	Method:	5 ft. split spoon		Ground Elev. (ft. MSL):	3.2
	· · · · · · · · · · · · · · · · · · ·		Ι.	<u> </u>				TOC Elev. (ft MSL)	6.31
Depth (ft)	Well Construction Diagram	(v-mdd)	Recovery (#/ft)	USCS	:		Des	ologic cription	
0 _				RDBASE	(0.0-0.	5) Caliche road bas	se, plugg	ed sampler, no recovery	'
_			0.25/5	CT	(0.5-5.	0) Sandy CLAY.			
5 —		0.5							
			0.5/5	ML		0.0) Sandy SILT, br w plasticity silt.	t, ~20 to 30% fine-graine	ed sand, ~70 to	
10 —		0.1 0.1	5/5	SM	clay in	4.4) Silty clayey S thin (<0.5") interbeained sand, soft.	SAND, bro eds, 20 to	own, wet, ~10 to 20% me o 30% low plasticity silt,	edium plasticity ~50 to 80%
15 — - - - -		0.1 0.2	5/5	SP.	(14.4-19.2) SAND, poorly graded, brown, wet, very fine-grained to fine-grained sand, soft; black, natural organic material locally.				
20 —		0.6		/¢r//			h-brown,	wet, medium plasticity c	lay, locally
25 —			5/5	Ğ	bedded, soft. (20.5-26.2) Sandy CLAY, grayish-brown, wet, ~20 to 30% fine-graine sand, ~70 to 80% medium plasticity clay, very soft, barrel filled with cuttings and slough from inside casingresulted in poor recovery.				
		44.1	2.5/5	SP		9.0) SAND, grades ained to fine-graine		y graded sand, brown, v very soft.	vet, very
30 —		14.2	3/5	SP	plastic		ally, ~90	nd clayey SAND, wet, ~ % fine-grained to mediu	
0		0	2/5	SP		0.2) SAND, poorly ained sand, compa		brown, wet, very fine-gra below 39.0.	ained to
-		1	7	(cH)	(40.2-4	1.7) CLAY, gray, w	vet, high	plasticity clay, soft.	
PBW (0.0-2) (0.0-4) (0				48.8) Surface 64.0) Casing,	Casing, 1 2" sch. 40 1, 2" sch. 4	4" sch. 40 PVC 0" sch. 40 PVC 0 PVC 10 PVC, 0.01" slot	(0.0-10 (0.0-20 (0.0-48 (10.0-5 (58.3-6	ar Materials .0) Bentonite chips, inside 1 .0) Cement/Bentonite slurry .8) Cement/Bentonite slurry 8.3) Cement/Bentonite slurry 2.0) 3/8" bentonite chips 6.0) 16/30 silica sand	outside 14" cas outside 10" cas

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists			L	og of Boring:	NE4MW32C					
0	ulfco Marine Mainte	nana		Completion Date:		06/13/08	Borehole Diameter (in.):	8.0/13.0/17.5		
	Superfund Site			Drilling Company:		Universal Drilling	Total Depth (ft):	80		
Freeport, TX			Field Supe	rvisor:	Tim Jennings, P.G.	Northing:	3154802.32			
 				Drilling Me	thod:	Hollow Stem Auger	Easting:	13554653.07		
ŀ	PBW Project No. 1	352		Sampling I	Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	3.2		
						· : ·	TOC Elev. (ft MSL)	6.31		
Depth (ft)	Well Construction Diagram	OID (ppm-v)	Recovery (ft/ft)	USCS	Lithologia					
45 —			3/5	6P	(41.7- plastic	45.8) Poorly graded SAND ty clay, ~80% fine-grained	and clayey SAND, gray, v I sand.	vet, ~20% high		
		9.2		/CH//	(45.8-	47.1) CLAY, gray, wet, hig	h plasticity clay.			
			5/5		(47.1-	47.4) SAND, poorly graded	, gray, wet, fine-grained to) / _/		
		0.9			\mediu	m-grained sand interbedde	d in clay.	//		
50	※ ※	0.5			(41.4-	47.7) CLAY, gray, wet.				
-			3/3	CL	fine-gi	55.0) Sandy CLAY, reddish ained sand, ~90 to 95% m ents near top, very stiff an	edium plasticity clay, a fe	~5 to 10% very w small shell		
55 —			2/2		magini	ents near top, very still an	u dense.			
-			2/2		(55.0-	30.0) Silty CLAY, gray with	local red mottling, moist.	~5 to 10% silt as		
60		0.1	3/3	CH	(55.0-60.0) Silty CLAY, gray with local red mottling, moist, ~5 to 10% si very thin interbeds and lenses, a few silt lenses and thin (<0.1') interbe at 57.0 to 58.5.					
				TCH!	<u>(60.0-</u>	60.5) CLAY, gray, ~20 to 3	0% shell fragments.	/		
65 —		0	5/5							
		0.2		CH	(60.5-	72.7) CLAY, very dark gra	, moist, high plasticity, c	lay with abundant		
			5/5		natura	l organic material at 62.5 t	o 68.0, a few shell fragme	ents.		
4		0.5								
70 —										
-										
.]		0.3	5/5	SHELL	(70.7	72 A\ CUELL James and a	n to contain come water			
				/ CH/	<u> </u>	73.0) SHELL layer, appear .8) CLAY, similar to the ma	s to contain some water.	/,		
75 —	Y			/////	<u></u>	, ==, =				
		0.3	5/5	CH	(73.8-80) CLAY, bluish-gray, moist, high plasticity clay with few shell fragments, very firm to stiff, thin silt bed at 77.7.					
80	1///									

PBW

Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446

Well Materials

(0.0-20.0) Surface Casing, 14" sch. 40 PVC (0.0-48.8) Surface Casing, 10" sch. 40 PVC (0.0-64.0) Casing, 2" sch. 40 PVC (64.0-74.0) Screen, 2" sch. 40 PVC, 0.01" slot (74.0-74.3) End Cap

Annular Materials

(0.0-10.0) Bentonite chips, inside 10" casing (0.0-20.0) Cement/Bentonite slurry, outside 14" casing (0.0-48.8) Cement/Bentonite slurry, outside 10" casing (10.0-58.3) Cement/Bentonite slurry, inside 10" casing (58.3-62.0) 3/8" bentonite chips (62.0-76.0) 16/30 silica sand (76.0-80.0) Coated bentonite pellets

This boring log should not be used separately from the original report.

ATTACHMENT B

FUGRO CONSULTANTS, INC.
CONE PENTRATION TESTING REPORT



ALBERT FONSECA

Client

CPT Number NG3-CPT1

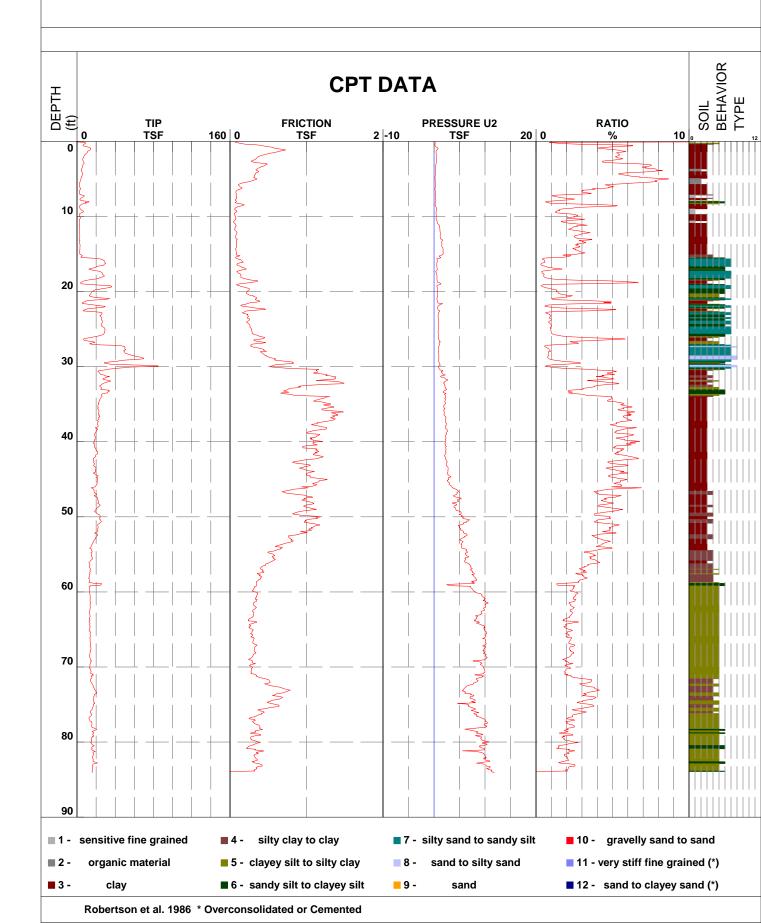
Date and T 03-Jun-2008 08:55:23

Elevation

Location **Gulfco Site-Freeport-TX**

Cone Number A15F2.5CKEHW1636

Water Table 0.00 ft





ALBERT FONSECA

Client

CPT Number NE4-CPT2

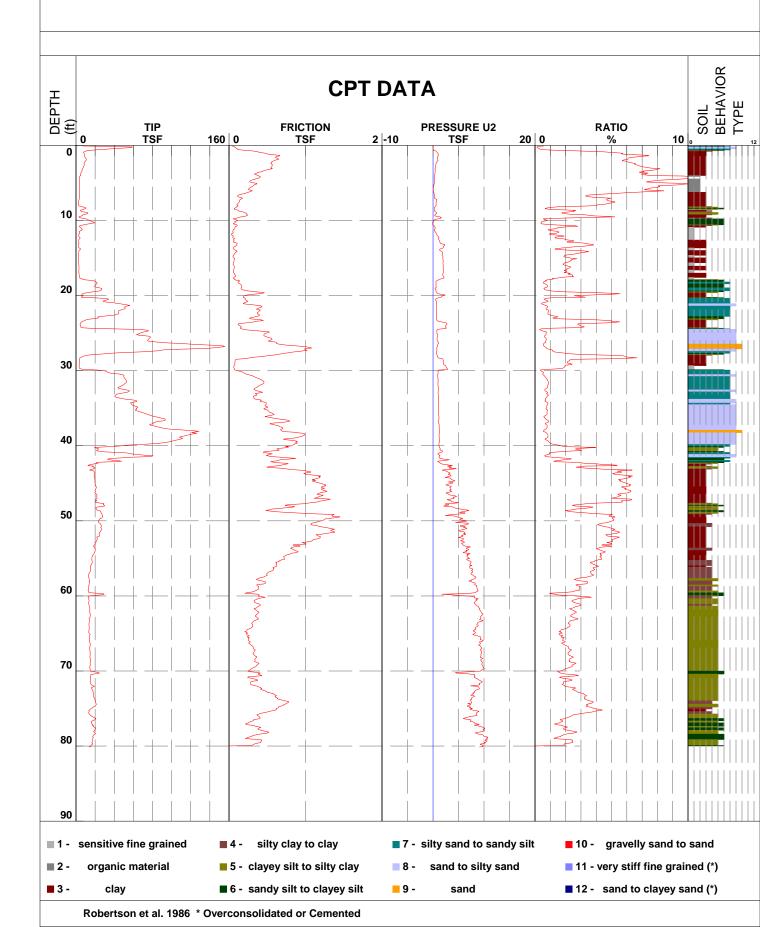
Date and T 04-Jun-2008 13:11:05

Elevation

Location **Gulfco Site-Freeport-TX**

Cone Number A15F2.5CKEHW1636

Water Table 0.00 ft





Job Number 04.1908-0042

ator ALBERT FONSECA

Client _____

CPT Number NC2-CPT3

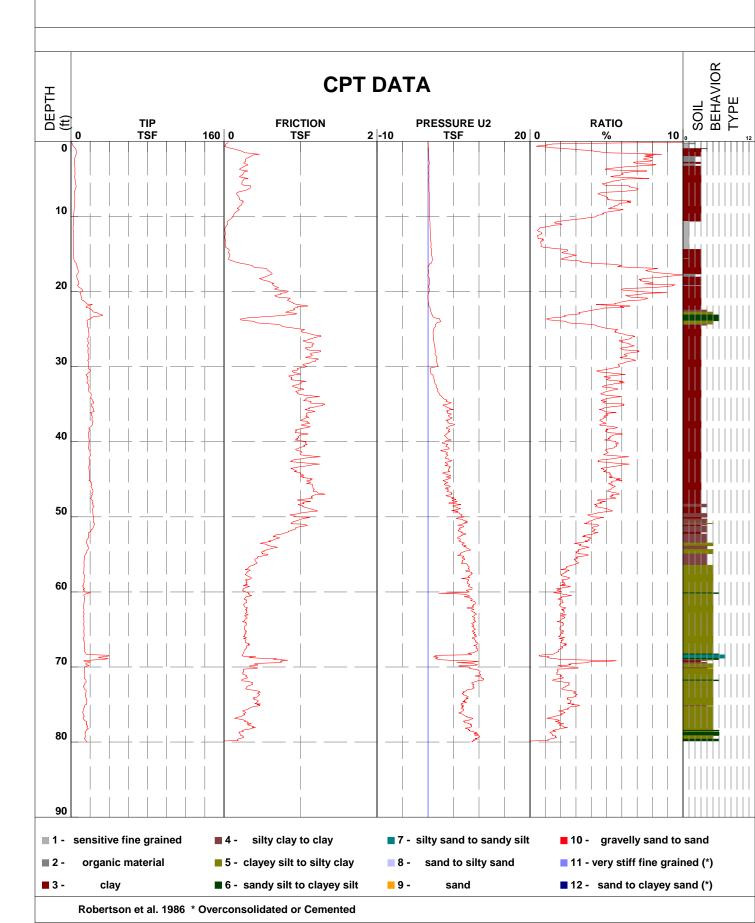
Date and T 02-Jun-2008 14:04:29

Elevation _____

Location Gulfco Site-Freeport-TX

Cone Number A15F2.5CKEHW1636

Water Table 0.00 ft





Job Number 04.1908-0042

ALBERT FONSECA

Client _____

CPT Number OCPT-4

Date and T 03-Jun-2008 16:42:24

Elevation

Location Gulfco Site-Freeport-TX

Cone Number A15F2.5CKEHW1636

Water Table 0.00 ft

